Alaska Spill Response Tactics Manual Project
(Phase I)

Draft Summary Report TO ADEC

June 16, 2004

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Introduction

This draft report to the Alaska Department of Environmental Conservation (ADEC) contains the deliverables for Tasks I and II of the Alaska Spill Response Tactics Manual (Phase I) project under Contract 18-8003-28. This report summarizes the research conducted by Nuka Research and Planning Group, LLC (Nuka Research), the contractor, in reviewing available national and international sources of oil spill tactics manuals as potential reference documents for the ADEC Alaska Spill Response Tactics Manual (ASRTM).

Project Background

In the State of Alaska, spill response tactics manuals serve as key execution documents in the event of an oil or hazardous substance release. The regulated oil industry has developed several different tactics manuals in order to meet State contingency planning requirements. These include tactics manuals that have been developed by the major Alaskan spill response organizations. On the national and international scale, response tactics and guidance manuals have also been developed by the U.S. Coast Guard, the Arctic Council (Emergency Prevention, Preparedness & Response Program), response agencies in all other U.S. and West Coast states, and National Response Team agencies such as the National Oceanic and Atmospheric Administration (NOAA).

The purpose of this project is to coordinate the development of a statewide spill response tactics manual for use by the spill response community, including federal, state, local, industry, and spill cooperatives throughout Alaska. The end product would be available for general use by the spill response community in Alaska, and may also serve as a means for meeting contingency planning requirements. The manual is intended to become the standard tactical reference for oil spill planning and response activities in Alaska. The standardized tactical descriptions contained in the manual can be referenced in contingency plans, making them simpler, and will facilitate mutual aid among response organizations. The manual may eventually become part of the Alaska Federal and State Preparedness Plan for Response to Oil and Hazardous Substance Discharges/ Releases (Unified Plan).

Methods

Phase I of the ASRTM development project required a nationwide search and comparison of tactics information from industry, spill cooperatives, regulatory agencies, and other pertinent sources. This document reports on the information obtained, and identifies copyright issues related to the use of the information in the ASRTM. This report also presents recommendations on a standardized format and process for developing the manual.

Task I – Research and Coordination

Task I required evaluation of the following documents:

1. Alaska Clean Seas (ACS) Technical Manual;
2. Cook Inlet Spill Prevention and Response Inc. (CISPRI) Technical Manual;
3. South East Alaska Prevention and Response Organization (SEAPRO) Tactics Manual and Responder Handbook;
4. Alaska Chadux Corporation tactics document;
5. Alyeska Pipeline Service Company Ship Escort and Response Vessel System (SERVS) tactics documents;
6. The General Tactics part of the Alaska Geographic Response Strategies (GRS) portions of the subarea plans.
7. Field Guide for Oil Spill Response in Arctic Waters (Arctic Council EPPR); and
8. Field Guide for the Protection and Cleanup of Oiled Arctic Shorelines (Environment Canada).

This list was expanded to include other documents that could serve as models or resources for the development of the ASRTM. Task I also required the determination of any potential copyright issues regarding the inclusion of proprietary data into the ASRTM.

Task II – Review and Evaluate Existing Spill Response Tactics documents

Task II required a review of existing tactics manuals to determine the best available sources of information for developing the ASRTM. A comprehensive and comparative review of the documents assembled under Task I was conducted and the usefulness of each document in preparing the ASRTM was noted. Finally, suggestions for the format and content of the ASRTM were developed.

Results

Task I – Research and Coordination

Thirty-three (33) sources of tactics reference material, including existing spill response tactics manuals as well as field response guides, oil spill contingency plans, general reference documents, and internet reference sites were reviewed under this task.

Table 1, included at the end of this report, summarizes the outcome of Nuka Research's work on Task I. The table provides the following information for each reference document:

- Title;
- Bibliographic information;
- Availability of online version and internet address, if applicable;
- Format (document size and binding) of printed/hard copy version;
- Point of contact for copyright/access information;
- Copyright assessment; and
- Summary of document contents, describing in general terms the layout, scope of information and usefulness in developing the ASRTM.

The results of Nuka Research's copyright inquiries varied considerably. Several organizations were very supportive of the project and willing to allow ADEC full access to reprint the referenced information, such as CISPRI, ACS, USCG, EPA. Other entities requested additional information about the project before providing copyright permission. Overall, we believe that most copyright issues can be resolved favorably, although additional support or intervention by ADEC may be necessary in some cases to assure copyright holders of the final disposition of the ASRTM. Nuka Research will continue to work through these copyright issues and will request support from the ADEC Project Manager as necessary.

Task II – Review and Evaluate Existing Spill Response Tactics Documents

Task II required assembling a list of existing tactics manuals to determine the best available sources of information for developing the ASRTM. In cooperation with the ADEC Project Manager, Nuka Research conducted a comprehensive and comparative review of the selected documents and developed this report to summarize our findings under Task II.

Table 2 summarizes the response tactics information provided in each of the reference documents listed in Table 1. Table 2 classifies each document using the

following categories to identify which types of oil spill response tactics/information are included (shaded areas indicate the inclusion of pertinent information):

- Safety
- Oil Spill Surveillance and Tracking
- Mechanical Response
  - Still-water
    - Containment/Exclusion Booming
    - Active Recovery/Skimming
    - Passive Recovery/Sorbants
  - Moving-water
    - Diversion Booming
    - Deflection Booming
    - Active Recovery/Skimming
  - Frozen-water
    - Broken-ice
      - Containment
      - Recovery
    - Solid-ice
      - Containment
      - Recovery
  - Land-based
    - Containment (Barriers, Berms, Dykes and Dams)
    - Active Recovery
    - Passive Recovery
    - Special Habitat (Tundra, Permafrost)
  - Primary Storage
  - Transfer of Recovered Fluids
- Non-mechanical Response
  - In-Situ Burning
  - Chemical Dispersion
  - Bioremediation
- Wildlife Response
- Clean-up
  - Shoreline
  - Land-based
- Waste Management
- Logistics

Recommendations

Organization

We suggest that the outline used in Table 2 above, might form a logical basis for organizing the ASRTM. We visualize the document consisting of general sections, such as *Safety* or *Mechanical Response*. Each section might be further broken into sub-sections, such as *Still-water* or *Moving-water*. Each sub-section would be divided into chapters for each category of tactics.

Each chapter would begin with an Introduction where the tactics within the chapter are discussed in general terms and compared as to their applicability. Comparisons could be done in tables similar to those in the *Field Guide for Oil Spill Response in Arctic Waters*. The remainder of the chapter would be comprised of individual tactic sheets. Each tactic sheet would contain the following headings:

- Tactic Description;
- Objectives and Implementation;
- Equipment and Personnel Resources;
- Capacities for Planning;
- Deployment Considerations and Limitations; and
- References to Other Tactics.

We also suggest that a simple icon be developed for each tactic, similar to the ones used in the GRS documents. This icon could be displayed on maps in GRS documents or on incident maps during exercises or actual responses. A chapter tab/marker like the ones used in the *Field Guide for Oil Spill Response in Arctic Waters,* would also be useful to quickly locate a chapter or section in the manual. However, we suggest that these markers be an abbreviation of the category (such as MW for Moving-water) rather than a chapter number.

Basis

Based on our examination of the documents in Table 1, we believe that the *Alaska Clean Seas Technical Manual – Volume 1 Tactical Descriptions*, the *Geographic Response Strategy – Part Two General Protection/Recovery Tactics* and the *Field Guide for Oil Spill Response in Arctic Waters* provide the best models for developing the ASRTM.

The ACS Technical Manual is generally acknowledged as a very good tactics manual. However, it contains much information that is specific to ACS, such as equipment brands and facilities. This information will have to be modified to become more general for statewide use. As noted in Table 1, many of the other reference documents provide valuable information that should be incorporated into the final manual.

Since there are no copyright issues associated with the ACS Technical Manual or the GRS document, we suggest that the useful information contained in these documents be combined to form the core of the ASRTM. Information taken directly or in summary from the other references could then be added to make the manual applicable for the entire state. This approach would save considerable costs over "starting from scratch" on an entirely new manual.

Format

Examples A, B1, B2 and C depict possible document formats and layouts for producing the ASRTM.

Example A represents a small field guide (4.25 by 7 inches) similar to the *Field Operations Guide* (FOG) manuals produced as an Incident Command System (ICS) job aid. The document is designed to be spiral bound on the short top side to present a portrait view of each page. The advantage to this format is that the document may fit into a pocket or field pack. The disadvantage is that the page size is small, necessitating undersized text and figures.

Example B1 and B2 represents a medium format field guide (5.5 by 8 inches) similar to the *Field Guide for Oil Spill Response in Arctic Waters*. B1 is designed to be spiral bound along the top to present a landscape view. B2 is designed to be spiral bound on the left side to present a portrait view. This medium format is also small enough to make it easy to carry, but has more room on each page for larger figures and text. This is the format that we recommend for the ASRTM.

Figure C uses a standard 8.5 by 11 inch page three-hole punched for a three-ring binder. This format allows users to easily print their own copies from a CDROM or the Internet and then assemble the pages into a hardcopy manual. This approach also allows individual pages to be substituted if tactics are modified. Also new tactics can be easily added. The disadvantage to this format is that it is harder to carry into the field.

We did not produce an example on 11 by 17 inch tabloid paper because we do not feel that this size would work well for a field manual.

We suggest that the body of the ASRTM be developed as a grayscale document instead of color. This will reduce the printing costs and color is not necessary to depict the tactics contained in the referenced documents. The front cover could contain color to make the manual easily recognizable.

Issues for Further Consideration

In conducting the research required to produce this report and to meet the project requirements for Tasks I and II, Nuka Research identified a number of issues and questions that bear further consideration by the ADEC Project Man-

ager and staff in order to further clarify the scope and focus of the ASRTM. These issues are summarized below.

Scope

The scope of the manual needs to be defined. Should the following categories be included in the manual:

- Non-mechanical response (In-Situ Burning, Dispersants, Bioremediation);
- Wildlife response;
- Waste management and disposal;
- Spill tracking and aerial surveillance; and
- Heavy fuel products?

One approach may be to develop the manual in phases, beginning with the most broad-based tactics.

Equipment classification system

Standard classification of oil spill response equipment is important in order to specify equivalent equipment within a tactical description. We know of two common classification systems that are used to type oil spill response equipment:

- World Oil Catalog system developed by Robert Schultz and
- Oil Spill Response Organization (OSRO) developed by the U.S. Coast Guard.

After considerable discussion, the Central Cook Inlet GRS Workgroup chose to use the World Oil Catalog system in their document. Subsequent GRS workgroups have continued to use this classification system.

Process for developing the manual

The ASTRM should be developed with the participation of its eventual users. The manual could be developed by a workgroup, possibly consisting of ADEC, USCG, EPA and the Alaska spill cooperative managers. An alternative would be to develop the manual in-house and have it analyzed by peer reviewers.

On-line version

ADEC should consider developing a companion on-line version of the ASTRM that can be used as a training tool and quick reference guide. An on-line version could be designed to be interactive allowing the user to design a strategy by selecting and modifying a standard tactic to fit a particular circumstance. There could be some cost efficiencies in developing the two versions at the same time.

Appendices

Appendix A – Table (1) Summary of Documents Reviewed for Task 1

Appendix B – Table (2) List of Tactics in Documents of Table 1

Appendix C – ASRTM Example Formats

Example A

Example B1

Example B2

Example C

Appendix A – Table (1)

Table 1. Summary of documents reviewed for Task I of the ADEC Spill Response Tactics Manual Project (Phase 1)

DEC Alaska Spill Response Tactics Manual Phase I Reference List					
Reference Information	**Online Version**	**Format**	**Contact Name/Info**	**Copyright Issues**	**Summary and Comments**
1. ACS Technical Manual/Field Guide					
Alaska Clean Seas. 2003. "Alaska Clean Seas Technical Manual." ACS, Prudhoe Bay, Alaska.	http://www.asgdc.state.ak.us/maps/cplans/ns/cleanseas/tactics.html	11" x 17" spiral bound manual 4.25" x 7.25" field guide	Brad Hahn-general manager or Fred McAdams-operations manager; T 907-659-2405 F 907-659-2616; bhahn@alaskacleanseas.org; opmanager@alaskacleanseas.org	Phone call made and emailed RFP. Permission granted per Brad Hahn via email.	Provides a detailed source of information pertaining to spill response tactics on the North Slope of Alaska. Including: spill response tactics in a variety of conditions and seasonal variations; maps of resources at risk from a spill; information on the incident management system used in a spill event. The Field Guide contains the following sections: tactics and tactic descriptions; incident command system forms; equipment operations checklists; position checklists. ACS Technical Manual: Volume 1 - tactics descriptions; Volume 2 - map atlas. The Information presented is readily transferable into the ASRTM. This document may serve as the basis for the ASRTM, but information specific to ACS and the North Slope will have to be modified.
2. AIMS Guide					
Alaska Department of Environmental Conservation. November 2002, "Alaska Incident Management System Guide for Oil and Hazardous Substance Response, Revision 1".	http://www.akrrt.org/aim/aim_toc.shtml	4.25" x 7" top bound field guide	Larry Iwamoto (ADEC); Larry_Iwamoto@dec.state.ak.us	Phone call made and emailed RFP. Permission granted per Larry Iwamoto via email.	The purpose of this document is to provide background information on concepts of operation for responding to oil and hazardous material releases statewide. The concepts presented are designed to be applied to spill incidents, regardless of nature, severity, or location, and for use by public and private agencies to fully coordinate response efforts during a significant oil or hazardous materials release. The AIMS field guide first depicts the organizational approach and then follows with three parts explaining in detail the three functional teams. More than 3/4's of the guide is appendices: organizational and management principles; position descriptions; knowledge/training guidelines. No spill response tactics in this guide. This document does not contain specific spill response tactics but the ASRTM should be compatible with the incident management process presented here. The AIMS guide would be referenced in the ASRTM.
3. Field Guide for Oil Spill Response in Arctic Waters					
Owens, Edward H. (Owens Coastal Consultants) and Laurence B. Solsberg, Mark R. West and Maureen McGrath (Counterspil Research Inc.). September 1998. "Field Guide for Oil Spill Response in Arctic Waters." Emergency Prevention, Preparedness and Response Working Group. Environment Canada, Yellowknife, NT Canada, 348 pages.	http://eppr.arctic-council.org/fldguide/intro.pdf; http://eppr.arctic-council.org/fldguide/	5.5" x 8" left side spiral bound	Environment Canada, Suite 301, 5204 50th Avenue, Yellowknife, NT Canada X1A 1E2; F +1-867-873-8185 or EPPR contact at internet: http://arctic-council.usgs.gov. Ms. Laura Johnston Environment Canada Suite 301, 5204-50 Avenue Yellowknife, NT, X1A 1E2 Canada. Tel: +1 867 669 4782, fax: +1 867 873 8185	Copyright: Minister of Public Works and Government Services, 1998 Canadian Government Publishing Catalogue No.:En40-562/1998E, ISBN: 0-660-17555-X; Phone call made and a message was left. No response as of June 13, 2004.	This field guide was developed to provide circumpolar countries with oil spill response guidance specific to the unique climatic and physiographic features of the Arctic environment. A field guide broken into sections: Part A - Operations, has 3 parts: initial response guide, response strategies, and response methods; Part B - spill behavior and tracking, notification and spill response decision process, coastal character of arctic regions, and references. Useful information and format to supplement the development of the ASRTM.
4. Field Guide for the Protection and Cleanup of Oiled Arctic Shorelines					
Owens, E.H., 1996. "Field Guide for the Protection and Cleanup of Arctic Oiled Shorelines." Environment Canada, Prairie and Northern Region, Yellowknife, NWT, 213 pp.	NONE	4.5" x 7" left side spiral bound	Environment Canada, Environmental Protection Branch,PO Box 370, Yellowknife, NT Canada X1A 1E2; T:403-920-6060; F 403-873-8185; email: TILDEND@YELNT.DOE.CA	Phone call was made and message left. No response as of June 13, 2004.	The manual was developed as a field guide to be used during spill response operations for the quick identification of shoreline protection and treatment or cleanup response options. Emphasis is given to the techniques that are normally available and appropriate for the shoreline types and coastal environmental settings that are typical of Arctic regions during summer or open-water conditions. Includes section on spill behavior and tracking and a section on the coastal character of the Arctic regions. A field guide broken into 6 sections: Introduction (includes decision guides); shoreline protection; shoreline treatment or cleanup strategy by shoreline type; shoreline treatment methods; strategies for specific environments; references; appendices (sediment sizes and conversions). Useful information to supplement the development of the ASRTM.
5a. Prince William Sound Tanker Oil Discharge Prevention and Contingency Plan					
Prince William Sound Tanker Plan Holders. 1999. "Prince William Sound Tanker Oil Discharge Prevention and Contingency Plan." BP Oil Shipping Company, Alaska.	NONE	cd - pdf files	Response Planning Group contact through BP Oil Shipping Company, USA; PO Box 190848; Anchorage, Alaska 99519-0848; Daren Beaudo (daren.beaudo@bp.com); Ed Thompson (ed.thompson@bp.com); 907-561-5181	Permission granted per Ed Thompson through personal communication with Tim Robertson on June 11, 2004.	This plan was developed as a supplement to State Oil Discharge Prevention and Contingency plans to meet the requirements of State of Alaska regulations covering tank vessels carrying crude oil transported by the Trans-Alaska Pipeline System. The plan contains good tactical descriptions that are appropriate for coastal waters. These descriptions should be incorporated into the ASRTM.
5b. Prince William Sound Tanker Oil Discharge Prevention and Contingency Plan					
Prince William Sound Tanker Plan Holders. 1998. "Prince William Sound Tanker Oil Discharge Prevention and Contingency Plan. Part 3 Supplemental Information Document #1. Operations and Tactics" BP Oil Shipping Company, Alaska.	NONE	8.5" x 11" spiral bound left side	BP Oil Shipping Company, USA; PO Box 190848; Anchorage, Alaska 99519-0848	Permission granted per Ed Thompson through personal communication with Tim Robertson on June 11, 2004.	This document is an older version of 5a and is included because many of the tactical descriptions are more detailed than in the current version. Useful for developing the ASRTM.

Appendix A – Table (1)

Table 1. Summary of documents reviewed for Task I of the ADEC Spill Response Tactics Manual Project (Phase 1)

Reference Information	Online Version	Format	Contact Name/Info	Copyright Issues	Summary and Comments
6. GRS Documents – Part Two General Protection/Recovery Tactics					
Cook Inlet Subarea Committee. 2004. "Cook Inlet Subarea Contingency Plan For Oil And Hazardous Substance Spills And Releases, A Subarea Plan of the Unified Plan for the State of Alaska", Section G, Part 2 - General Protection/Recovery Tactics.	http://www.state.ak.us/dec/spar/perp/grs/ci/cigrsp2.pdf	11" x 17" manual, 3-hole punched on left side.	Cook Inlet Subarea Committee c/o Dale Gardner ADEC/SPAR 555 Cordova Street Anchorage, AK 99501 Dale_Gardner@dec.state.ak.us 907-269-7682	Permission granted per Dale Gardner.	This section contains generalized oil spill response tactics that were used to develop the site-specific strategies. Each general tactic description contains objectives, implementation instructions, response resources required, and deployment considerations and limitations. These general tactics are shown as symbols on the GRS maps and the required resources have been adapted to the specific site and listed in the GRS tables in Section 3. Equipment classifications are taken from the World Catalog of Oil Spill Response Products. Should form the basis for developing the ASRTM.
7. SEAPRO Technical Manual					
Southeast Alaska Petroleum Resource Organization. September 2001. "SEAPRO Technical Manual"	NONE	cd - pdf files	SEAPRO, Cheryl Fultz, Planning Manager, 540 Waters St, Suite 201, Ketchikan, AK 99901; cheryl@seapro.org; T 907-225-7002; F 907-247-1117	Permission granted per Cheryl Fultz via email on June 11, 2004.	This plan was developed as a supplement to SEAPRO members' State Oil Discharge Prevention and Contingency plans to meet the requirements of State of Alaska regulations. The plan contains tactical descriptions that are similar to the ACS Technical Manual. These descriptions should be incorporated into the ASRTM. The small cdrom version of this manual is low cost and easily distributed, but requires a computer to view.
8. Oil Spill Control Course					
Occupational & Environmental Safety Training Division. 1992. "Oil Spill Control Course." Texas Engineering Extension Service, Galveston, Texas.	NONE	8.5" x 11" manual in 3-ring binder	Texas Engineering Extension Service (TEEX); T 409-740-4490; F 409-740-2375;john.giesen@teexmail.tamu.edu	Phoned and emailed the RFP to John Giesen. His response was "At this time please consider the copyright to be firm; we will consider requests on a case by case basis, however I can't give an answer one way or another. My position would be one to make the recommendation to our Agency legal staff and Executive Committee".	This course was developed to provide the layperson with basic knowledge of the effects of spilled oil on the environment, and with knowledge of the types of equipment and strategies used for cleanup of spilled oil. In order to understand the magnitude of the oil spill problem, some past spill statistics can be reviewed in the text. The course covers a number of subjects: strategies, equipment and application thereof, boat handling, treatment of oil, incident command, contingency planning, documentation, public relations, regulatory requirements. Some tables in this document would be useful in the ASRTM, but much of the information is dated.
9. Shoreline Assessment Manual					
Office of Response and Restoration. August 2000. "Shoreline Assessment Manual." Hazardous Materials Response Division, National Ocean Service, National Oceanic and Atmospheric Administration, 7600 Sand Point Way NE, Seattle, WA 98115.	http://response.restoration.noaa.gov/oilaids/pdfs/SAM.pdf	8.5" x 11" spiral bound left side	Debbie Payton/ debbie.payton@noaa.gov	Phoned and left message as well as emailed RFP to Debbie Payton. No response as of June 13, 2004. This is a public document so there should not be any problem using it, if it is properly cited.	This manual outlines methods for conducting shoreline assessments and incorporating the results into the decision-making process for shoreline cleanup at oil spills. The sections of the manual describe the organizational and technical aspects of conducting a shoreline assessment. The manual is designed to be used as a field guide as well as a training tool. The sections include: the shoreline assessment process; responsibilities and roles of the team; activities - aerial surveys, developing spill-specific guidelines, shoreline surveys, reports, cleanup evaluation/effectiveness monitoring, inspections, signoff, terminology, references. Appendices include: equipment checklist; brief descriptions of cleanup methods; shoreline descriptors, including oil behavior and response considerations; assessment forms; and a primer on drawing field sketches. This document should be referenced in the ASRTM.
10. Oil Spill Response in Fast Currents – A Field Guide					
Hansen, Kurt and Thomas J. Coe. October 2001. "Oil Spill Response in Fast Currents – A Field Guide." U.S.Coast Guard, Research and Development Center, 1082 Shennescossett Road, Groton, CT 06340-6096.	order from: http://www.stormingmedia.us/06/0660/A066004.html	8.5" x 11" unbound	Kurt Hansen; 860-441-2865; khansen@rdc.uscg.mil	Phoned and emailed RFP. Permission granted by Kurt Hansen via email as long as anything used is referenced.	The purpose of this guide is to provide advice, strategies and tactics to spill planners, responders and monitors/field observers to improve spill response in swift currents greater than one knot. The guide is largely a consolidation of research conducted for the US Coast Guard concerning technology assessment of fast-water oil spill response in more practical application terms (Coe and Gurr, 1999). Technology and tactics are represented in a practical scheme to show how to improve oil spill response capabilities for currents from one to five knots. This document starts with a decision guide to determine what techniques can be used in various spill response scenarios. Additional details are provided for hydrodynamic issues, individual tactics, fast-water skimmers and support equipment such as boats and anchors. The appendices provide additional background information needed to make decisions during a response in fast-water conditions. The information in this document should be incorporated into the ASRTM.
11. World Catalog of Oil Spill Response Products					
Robert Schulze Environmental Consultant, Inc. 1997. "World Catalog of Oil Spill Response Products, Sixth Edition."	NONE	8.5" x 11" bound book 2" thick	Robert Schulze Environmental Consultant, Inc.; World Catalog JV, 1356 Cape St. Claire Road, Annapolis, Maryland 21401. T 410-757-3245; F 410-757-8614 **SOLD RIGHTS TO:** SLRoss Inc., Steve Potter; 613-232-1564.	Phoned and spoke with Steve Potter. The Catalog has a copyright, it is a commercial enterprise: Copies cost $200. It may be referenced, but information cannot be taken verbatim.	A complete listing of: booms, skimmers, sorbents, pumps, oil/water separators, beach cleaners, dispersant application equipment, temporary storage devices. Also includes data sheets and how-tos. In addition to the listing of available equipment, the catalog contains more in-depth information on: booms-how they operate, how they fail, types available, criteria for selecting booms, performance testing; skimmers-types and applications, measures of effectiveness, and performance testing; sorbents-definitions and types, criteria for selecting, tests; oil/water separators-operations, tests, technology; pumps; beach cleaners; dispersant application equipment-types, calibration, tests; temporary storage devices-types, technology, requirements, tests. The appendices include: in-situ burning-scenarios, systems, environmental considerations; sample computations for structural failure; oil spill encounter rate for contingency planning; bioremediation; conversions. This catalog contains valuable information, including a classification system used in Alaska GRS documents. It should be referenced in the ASRTM.

Appendix A – Table (1)

Table 1. Summary of documents reviewed for Task I of the ADEC Spill Response Tactics Manual Project (Phase 1)

Reference Information	Online Version	Format	Contact Name/Info	Copyright Issues	Summary and Comments
12. Capital Equipment Study and Recommendations for the Alaska Coastal Communities Cooperative					
Kindle, Keith P. and Roy W. Hann, Jr., Ph.D., P.E., D.E.E. 1992. "FINAL REPORT - Capital Equipment Study and Recommendations for the Alaska Coastal Communities Cooperative for the Prince William Sound Regional Citizens Advisory Council". International Spill Technology 1300 Walton Drive, College Station, Texas 77840.	NONE	8.5" x 11" comb bound left side	Keith P. Kindle	Permission granted by Keith Kindle via email as long as anything used is referenced.	This report is a supporting work product to the report "A Coastal Communities Cooperative for Alaska - A Feasibility Study" prepared for the PWS Regional Citizen's Advisory Council. This report describes the equipment and facility inventory and related capital budget perceived to enable the Alaskan Coastal Communities cooperative to carry out its mission. The study is organized into three major sections: Section 1-introduction; Section 2-describes the various missions of the ACCC; and Section 3- describes the selection of equipment for the separate mission activities. Much of the information in this report is dated and therefore not useful for the ASRTM, however, it should be referenced.
13. Oil Containment Boom: Design, Deployment, Use, Recovery & Cleaning					
Miller, R.E. "Oil Containment Boom: Design, Deployment, Use, Recovery & Cleaning." Clean Sound Cooperative, Inc.	NONE	8.5" x 11" sheets in 3-ring binder (2" notebook)	mccartan@cleansound.com	Emailed RFP. No response as of June 13, 2004.	This training manual discusses the various types of oil spill boom, their limitations and application in various situations. Included in the contents: boom design and construction; boom failure; boom anchoring and mooring; boom techniques and strategies; boom recovery; boom cleaning. Information in this manual would be useful to the development of the ASRTM, if permission can be acquired.
14. CISPRI Technical Manual					
Cook Inlet Spill Prevention and Response Inc. 2000. Technical Manual.	NONE	8.5" x 11" sheets in 3-ring binder (5" notebook)	Doug Lentsch, General Manager Cook Inlet Spill Response Inc. T (907) 776-5129. F(907) 776-2190 dlentsch@cispri.org	Permission granted by Doug Lentsch via telephone. Very supportive of the project.	This plan was developed as a supplement to CISPRI members' State Oil Discharge Prevention and Contingency plans to meet the requirements of State of Alaska regulations. A secondary benefit is its usefulness as a training document. The four volume technical manual contains information for response to oil spills by members or non-members. Information in this manual includes identification of pre-designated areas considered critical for the protection of fisheries, marine mammals, shorebirds, waterfowl, raptors, and archaeological sites. The manual is broken up into four volumes: Volume 1 - general administration; Volume 2 - operations & planning response strategies; Volume 3 - environmental planning; and Volume 4 - logistics and finance. Tactical information in this manual should be incorporated into the ASRTM.
15. Alaska Shoreline Countermeasures Manual					
National Oceanic & Atmospheric Administration, Hazardous Materials Response & Assessment Division. April 1994. Alaska Shoreline Countermeasures Manual.	http://response.restoration.noaa.gov/counter/alaska.pdf	pdf document on website	debbie.payton@noaa.gov	Emailed RFP. No response as of June 13, 2004. This is a public document so there should not be any problem using it, if it is properly cited.	This manual was developed as a tool for shoreline countermeasures planning and response which are critical elements in determining the ultimate environmental impact and cost resulting from a spill. The manual includes the following sections: decision process and assessment; shoreline types; mapping; countermeasure methods; treatment methods (and those requiring RRT approval). The documents pertains solely to shoreline cleanup. It should be used as the basis for developing the shoreline cleanup portion on the ASRTM.
16. Aerial Observation of Spills					
National Oceanic & Atmospheric Administration, Hazardous Materials Response & Assessment Division. 1996. Aerial Observation of Oil at Sea, HAZMAT Report 96-7.	http://response.restoration.noaa.gov/oilaids/OilatSea.pdf	pdf document on website	debbie.payton@noaa.gov	Emailed RFP. No response as of June 13, 2004.	Aerial observation guidelines. 15 page report focused on aerial observation guidelines and the importance of these observations as they are used by the response team to forecast subsequent oil movement, implement appropriate oil spill countermeasures, and inform the wider response community of the present status of pollution distribution. Should be referenced in the Oil Spill Surveillance and Tracking chapter of the ASRTM.
17. Mechanical protection guidelines					
Michel, Jacqueline; Christopherson, Sharon;Whipple, Frank. 1994. Mechanical Protection Guidelines. National Oceanic & Atmospheric Administration, Hazardous Materials Response & Assessment Division.	http://response.restoration.noaa.gov/oilaids/Mechanical.pdf	pdf document on website	debbie.payton@noaa.gov	Emailed RFP. No response as of June 13, 2004.	This manual emphasizes providing guidance to Area Committee members on how best to employ mechanical protection methods, such as booms and barriers, when designing workable protection strategies. This manual is intended to support planning; it does not address spill response or shoreline cleanup issues. For guidance in these areas, NOAA (1993) has prepared a shoreline countermeasures manual (see listed above). The objectives of this manual are threefold: (1) provide guidelines for identifying and prioritizing areas with sensitive habitats, fish and wildlife resources, and human-use resources; (2) describe the types of shoreline protection measures available to protect sensitive resources, emphasizing the limits and requirements of each protection measure; and (3) provide guidance on developing site-specific protection strategies, including equipment and logistics needed, operational constraints, and physical conditions at the site. Tactics are listed with a brief description. The information in this manual is useful to the development of the ASRTM.

Appendix A – Table (1)

Table 1. Summary of documents reviewed for Task I of the ADEC Spill Response Tactics Manual Project (Phase 1)

Reference Information	Online Version	Format	Contact Name/Info	Copyright Issues	Summary and Comments
18. NOAA Fact Sheets -					
National Oceanic & Atmospheric Administration, Hazardous Materials Response & Assessment Division.	http://response.restoration.noaa.gov/oilaids/reports.html	pdf documents on website	debbie.payton@noaa.gov	Emailed RFP. No response as of June 13, 2004.	Short fact sheets on various spill-related topics. ・ How tarballs form; what we know, and don't know, about them. (webposted 3/3/00) ・ Alaska North Slope Crude Blends (PDF file; 272K) What to expect when these blends are spilled. (webposted 2/3/99) ・ Number 6 Fuel Oil (Bunker C) Spills (PDF file; 437K) What to expect when this product is spilled (webposted 3/23/98) ・ Small Diesel Spills (500-5000 gallons) (PDF file; 437K) The characteristics of these spills. (webposted 3/23/98) ・ SMART fact sheet (PDF file; 81K) Explanation of the SMART program for monitoring in-situ burning and dispersant use. ・ Tracking Oil Spills With Coastal Drifters (PDF file; 250K) How satellite-tracked surface buoys are used to track the movement of oil slicks. (webposted 2/26/01) May be useful for the ASRTM.
19. Trajectory Analysis Handbook					
National Oceanic & Atmospheric Administration, Hazardous Materials Response & Assessment Division. 2002. Trajectory Analysis Handbook.	http://response.restoration.noaa.gov/oilaids/trajanal/trajanal.html	pdf document on website	debbie.payton@noaa.gov	Emailed RFP. No response as of June 13, 2004.	A primer on trajectory modeling. Probably not applicable to the ASRTM.
20. NCP Product Schedule (chemical countermeasures)					
Environmental Protection Agency	http://www.epa.gov/oilspill/ncp/index.htm	pdf document on website		Public document, not copyrighted.	This document lists all chemical products that have undergone EPA testing for use in spill response. Only those dispersants/chemical agents listed in the NCP product schedule may be used in spill response operations. The Produce Schedule Technical Notebook presents summary information on the conditions under which the products may be used. Depending on the type of product, the summarized data may include: special handling and worker precautions; ventilation requirements; emergency procedures in the event of skin or eye contact; protective clothing requirements; minimum and maximum storage temperatures; temperatures of phase separations and chemical changes; shelf life; recommended application procedures; physical properties, including flash point, pour point, viscosity, specific gravity, and pH; analyses of heavy metals, chlorinated hydrocarbons and cyanide; toxicity; and effectiveness. Probably not applicable to the ASRTM.
21. Best Practices for Migratory Bird Care during Oil Spill Responses					
U.S. Fish and Wildlife Service	http://contaminants.fws.gov/OtherDocuments/best_practices.pdf	pdf document on website		Telephoned and found the document is non-copyrighted so it is not a problem to use, just make appropriate reference.	This document is intended for use as a guide in: 1-developing appropriate sections of area contingency plans; 2-evaluating contractors for bird capture and rehabilitation; 3- making informed choices during spill responses; and 4-evaluating oiled bird rehabilitation activities to improve field practices. Useful for developing the Wildlife Response chapter of the ASRTM.
22. Oil-spill-web Oil Spill Response Handbook					
FlemingCo Environmental. 2003. Oil-Spill-Web, Response Handbook.	http://www.oil-spill-web.com/oilspill/handbook.htm	pdf document on website		Copying all or part of the oil-spill-web Response Handbook is permitted for educational purposes only, provided reference is made to the oil-spill-web/Flemming Hvidbak	This is a website with a collection of information about spill response basics - equipment, oil spreading, tactics, wildlife rehab, disposal, etc. It is a general directory. It includes response tactics for oil spills at sea, to the shoreline, etc. Most of the information is text rather than diagrams - this raises an interesting question - to what extent will the tactics guide include narrative as well as diagrams?
23. Spills of Nonfloating Oils: Risk and Response					
1999, National Academies Press, Marine Board, Commission on Engineering & Technical Systems	Can be ordered at http://www.nap.edu/books/0309065909/html/			Emailed RFP. No response as of June 13, 2004.	This seems to be more of a workgroup report than a tactics guide. Probably not useful in developing the ASRTM.
24. Oil Spill Responder Safety Guide					
Volume 11, IPIECA oil spill reports - 2002	http://www.ipieca.org/downloads/oil_spill/oilspill_reports/Vol11.pdf	pdf document on website		Emailed RFP and permission granted with appropriate acknowledgement.	May be useful to develop a Safety chapter in the ASRTM.
25. Guidelines for Oil Spill Waste Minimization & Management.					
Volume 12, IPIECA oil spill reports - 2004	http://www.ipieca.org/downloads/oil_spill/oilspill_reports/vol12_WasteManagement_FINAL.pdf	pdf document on website		Emailed RFP and permission granted with appropriate acknowledgement.	The aim of this document is to highlight waste management issues related to oil spill cleanup. It outlines the sources of waste, how the waste should be collected, the storage considerations and the disposal options available. May be useful to develop a Waste Management chapter in the ASRTM.
26. OPEC Offshore oil spill cleanup website					
	http://www.opec.co.uk/opec/case_studies/offshore_spill_cleanup/index.html	website		Emailed RFP. No response as of June 13, 2004.	This website has general information about spill cleanup equipment and strategies - not a true tactics manual but decent general reference information.

Appendix A – Table (1)

Table 1. Summary of documents reviewed for Task I of the ADEC Spill Response Tactics Manual Project (Phase 1)

Reference Information	Online Version	Format	Contact Name/Info	Copyright Issues	Summary and Comments
27. OPEC Oil Spill Product Webpage					
	http://www.opec.co.uk/opec/prod_page/	website		Emailed RFP. No response as of June 13, 2004.	This website has general information about spill response equipment - pictures and descriptions of what each piece of equipment does.
28. ITOPF Webpage - oil spill cleanup techniques and response strategies (2 different pages with multiple links off them)					
	http://www.itopf.com/clean-up.html and http://www.itopf.com/response.html	website	Dr T.H. Moller, Managing Director, International Tanker Owners Pollution, Federation Limited, Staple Hall, 87-90 Houndsditch, London EC3A 7AX Tel: +44 20 7621 1255 Fax: +44 20 7621 1783 Email: toshmoller@itopf.com Web: itopf.com	Emailed the RFP and received this response: "We have no objection in principle to the captioned material being used for the purpose of preparing a spill response tactics manual for ADEC. However, I would like to know how you intend to incorporate the material."	A description of spill response techniques with photographs. May be a useful reference for the ASRTM.
29. IMO Manual on Oil Pollution					
International Maritime Organization. 2003. "IMO Manual on Oil Pollution", Section IV - Combating Oils Spills.	http://www.imo.org/publications/contents.asp?doc_id=1231&topic_id=426&header=false&margin=no&productcode=I569E	book	Robert Cheer Head, Sales & Marketing Publishing Service International Maritime Organization (IMO) London, U.K. Tel. +44 (0)20 7735 7611 Fax +44(0)20 7587 3241 Email : publications-sales@imo.org	Emailed the RFP and received this response: "Under the Berne Convention on intellectual property a chapter is considered the maximum someone can copy before they infringe copyright or should really purchase the publication. In principle the IMO Publishing Service does not object to the copying of parts of chapters and would give permission to use the materials on the strict understanding that it is not for further distribution and is for training purposes only."	"This edition of Section IV draws on the experience and lessons learned by governments and industry in responding to marine oil pollution world-wide during the last thirty years. It builds on earlier editions, first published in 1972 and revised in 1980 and 1988, and provides a clear and concise overview of the present level of knowledge, expertise and understanding in the field of oil spill response." Updated in 2003. Available for purchase for 15 pounds (UK). This publication should be ordered and reviewed. It may be a useful resource for the ASRTM.
30. IMO/UNEP Guidelines on Oil Spill Dispersant Application					
International Maritime Organization. 1995. Guidelines on Oil Spill Dispersant Application.	http://www.imo.org/publications/contents.asp?doc_id=1231&topic_id=426&header=false&margin=no&productcode=IA575E	book	Robert Cheer Head, Sales & Marketing Publishing Service International Maritime Organization (IMO) London, U.K. Tel. +44 (0)20 7735 7611 Fax +44(0)20 7587 3241 Email : publications-sales@imo.org	Emailed the RFP and received this response: "Under the Berne Convention on intellectual property a chapter is considered the maximum someone can copy before they infringe copyright or should really purchase the publication. In principle the IMO Publishing Service does not object to the copying of parts of chapters and would give permission to use the materials on the strict understanding that it is not for further distribution and is for training purposes only."	"The Guidelines provide up-to-date information on the use of oil spill dispersants. They are intended primarily for use by Member Governments and other oil spill responders and should be read with the Manual on Oil Pollution, section IV: Combating Oil Spills (I569E)." Available for purchase for 7.50 pounds (UK). This document may be useful if a chapter on Dispersants is included in the ASRTM.
31. Trans-Alaska Pipeline Oil Discharge Prevention and Contingency Plan					
Alyeska Pipeline Service Company. 2004. Trans-Alaska Pipeline Oil Discharge Prevention and Contingency Plan	http://www.alyeska-pipe.com/Environment/c_planamendments.html	8.5" x 11" manual in 3-ring binder, 5 volumes	Alyeska Pipeline Service Company - P.O. Box 196660, Anchorage, AK, 99519-6660 alyeskamail@alyeska-pipeline.com		This Oil Discharge Prevention and Contingency Plan contains general tactical descriptions for containing and removing oil which may be spilled from the Trans-Alaska Pipeline. These tactical descriptions should be incorporated in the ASRTM.
32. Chadux					
No tactic manual exists at this time.	N/A	N/A	N/A	N/A	N/A
33. ADEC Tundra Treatment Manual					
Athey, Patrick; Dawn Reeder; Jim Lukin; Jay McKendrick; and Jeffery S. Conn. June 2001. For Alaska Department of Environmental Conservation. Juneau, Alaska 99801.	http://www.state.ak.us/dec/spar/perp/r_d/ttman/tt_g00.pdf	N/A	Ed Meggert	Permission granted per Ed Meggert.	The purpose of this manual is to provide a menu of tactics which can be used to treat and monitor tundra impacted by oil spills after the initial response efforts have eliminated the threat of large-scale spill migration. This manual is intended to provide a framework for identifying treatment goals, selecting tactics, and assembling an overall tundra treatment strategy. This may be useful for the Land-based chapter of the ASRTM.
Personal Communications					
Alan A. Allen, Spiltec Consultant	NONE	N/A	Alan Allen Spiltec 19220 N.E. 143rd Place, Woodinville, WA 98072; T 425-869-0988;F 425-869-7881; alan@spiltec.com or alanaa@attbi.com	NONE	Mr. Allen has numerous materials in his files that would be pertinent to the project. He has offered to let us use anything he has in his files. This would require a trip to his office. Mr. Allen would be an excellent peer reviewer for the final product.

Table 2. Summary of spill response tactics contained in each document review for the ADEC Alaska Spill Response Tactics Manual Project (Phase 1).

	DEC Alaska Spill Response Tactics Manual Phase I – List of Tactics Covered in Each Manual/Document	Safety	Oil Spill Surveillance and Tracking	Mechanical Response														Non-mechanical Response			Wildlife Response	Clean-up		Waste Management	Logistics
				Still-water			Moving-water			Frozen-water				Land-based												
										Broken-ice		Solid-ice														
				Containment/ Exclusion Booming	Active Recovery/ Skimming	Passive Recovery/ Sorbents	Diversion Booming	Deflection Booming	Active Recovery/ Skimming	Containment	Recovery	Containment	Recovery	Containment (Barriers, Berms, Dykes and Dams)	Active Recovery	Passive Recovery	Primary Storage and Transfer of Recovered Fluids	In-Situ Burning	Chemical Dispersion	Bioremediation		Shoreline	Land-based		
1	ACS Tech Manual	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2	Alaska Incident Mgmt System Guide																								■
3	Field Guide for Oil Spill Response in Arctic Waters			■	■	■	■	■	■	■	■	■	■	■			■	■	■	■		■	■	■	■
4	Field Guide for the Protection and Cleanup of Oiled Arctic Shorelines			■	■	■	■	■	■	■	■	■	■	■			■	■	■			■		■	
5	Prince William Sound Tanker Oil Discharge Prevention and Contingency Plan	■	■	■	■	■	■	■	■								■	■	■	■	■	■			■
6	GRS Tactics Section			■	■	■	■	■	■					■			■								
7	SEAPRO Technical Manual	■	■	■	■	■	■	■	■					■	■	■	■					■			■
8	Oil Spill Control Course			■	■	■	■	■	■					■	■	■	■		■			■		■	■
9	Shoreline Assessment Manual													■				■	■	■		■	■		■
10	Oil Spill Response in Fast Currents – A Field Guide						■	■	■					■											■
11	World Catalog of Oil Spill Response Products			■	■	■	■	■	■							■	■	■	■			■	■		
12	Capital Equipment Study and Recommendations for the Alaska Coastal Communities Cooperative			■	■	■	■	■	■								■								■
13	Oil Containment Boom: Design, Deployment, Use, Recovery & Cleaning			■	■	■	■	■	■																
14	Cook Inlet Spill Prevention and Response Inc. Technical Manual	■		■	■	■	■	■	■	■	■			■	■	■	■	■	■					■	■
15	AK Shoreline Countermeasures Manual (NOAA)													■				■	■	■		■			
16	Aerial observation of spills		■																						
17	Mechanical protection guidelines			■	■	■	■	■	■					■			■								■
18	NOAA Fact Sheets -																								
19	Trajectory Analysis Handbook																								
20	NCP Product Schedule (chemical countermeasures)																		■	■					
21	Best Practices for Migratory Bird Care during Oil Spill Responses																				■				
22	Oil-spill-web oil spill response handbook	■		■	■	■	■	■	■												■	■			■
23	Spills of Nonfloating Oils: Risk and Response		■	■	■																		■		
24	Oil Spill Responder Safety Guide	■																							
25	Guidelines for Oil Spill Waste Minimization & Management.																■								

Table 2. Summary of spill response tactics contained in each document review for the ADEC Alaska Spill Response Tactics Manual Project (Phase 1).

	DEC Alaska Spill Response Tactics Manual Phase I – List of Tactics Covered in Each Manual/Document	Safety	Oil Spill Surveillance and Tracking	Mechanical Response														Non-mechanical Response			Wildlife Response	Clean-up		Waste Management	Logistics
				Still-water			Moving-water			Frozen-water				Land-based												
										Broken-ice		Solid-ice														
				Containment/ Exclusion Booming	Active Recovery/ Skimming	Passive Recovery/ Sorbents	Diversion Booming	Deflection Booming	Active Recovery/ Skimming	Containment	Recovery	Containment	Recovery	Containment (Barriers, Berms, Dykes and Dams)	Active Recovery	Passive Recovery	Primary Storage and Transfer of Recovered Fluids	In-Situ Burning	Chemical Dispersion	Bioremediation		Shoreline	Land-based		
26	OPEC Offshore oil spill cleanup website						■	■											■			■			
27	OPEC Oil Spill Product Webpage																								■
28	ITOPF Webpage - oil spill cleanup techniques and response strategies			■	■	■	■	■	■								■	■	■		■				
29	IMO Manual on Oil Pollution (no copy available)																								
30	IMO/UNEP Guidelines on Oil Spill Dispersant Application (no copy available)																		■						
31	TAPS Oil Discharge Prevention and Contingency Plan	■					■	■	■			■	■	■	■	■	■	■		■	■		■	■	■
32	Chadux (no document exists)																								
33	ADEC Tundra Treatment Manual													■	■	■		■					■		

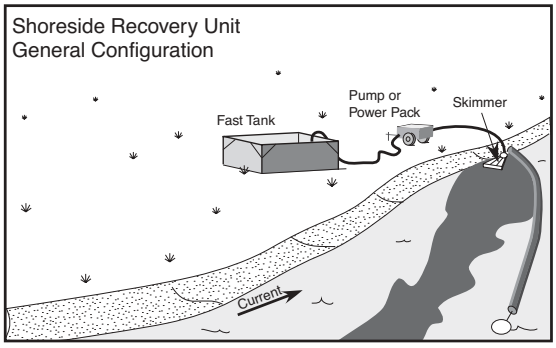
Appendix C – Example Manual Formats

Example A. Proposed format for the Alaska Spill Response Tactics Manual, 4.25" x 7.25", portrait, spiral binding on top.

M-2. SHORESIDE RECOVERY

SR

TACTIC DESCRIPTION



OBJECTIVE & STRATEGY

The objective of the shoreside recovery unit is to recover spilled oil that has been diverted to a designated recovery site accessible from the shore.

Numerous types of recovery systems (skimmers) are available to recover many types of oil. Recovery systems vary in size and support requirements. There is also a wide range of options for temporary oil storage. Access to the recovery site and the oil type may influence/dictate the options of equipment to be used. If access is restricted to four wheel ATVs, then the systems chosen need to be light enough to be transported by ATV and capable of being setup/deployed by a minimal number of personnel. If access is not restricted, larger systems can be used and deployed by heavy lifting equipment. If the site is accessible by road, vacuum trucks may be used for oil recovery, storage and transport. In all cases, every effort should be made to protect the collection beach. See Figure G-2-13.

The general strategy is to:

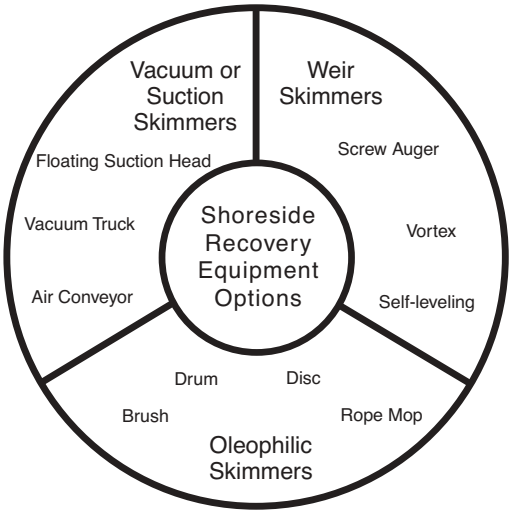
- Identify the primary recovery site and access capabilities.
- Determine the appropriate recovery and storage systems based on oil, access, and deployment restrictions.
- Mobilize and deploy equipment to recover and temporarily store the oil from the recovery site.

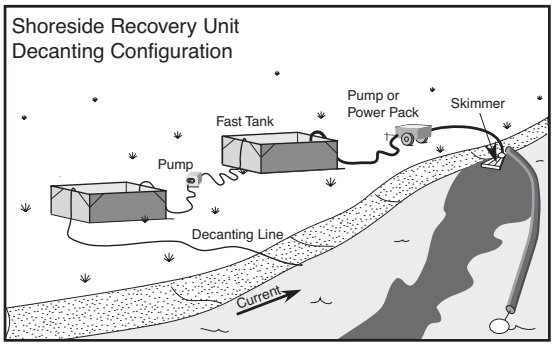
Resources for this module vary and have been divided into two categories: Restricted Access and No Restrictions. Each unit is defined to contain a recovery device, a storage device and the associated direct and support equipment and materials. Quantity of units required will be determined by site, and resource sets may need to be refined as site specific requirements dictate.

Example A, cont.

M

Mechanical Recovery – Shoreside Recovery





Alaska Spill Response Tactics Manual

4-25

Example A, cont.

EQUIPMENT AND PERSONNEL RESOURCES

Shoreside Recovery, Marine Access

SR

Direct Resources

Description	Type	Function	Quantity
Collection System	Calm/Protected water skimmer	Oil recovery	1
Storage Device	Portable/Easy Setup	Oil storage	1
Hoses & Fittings	Misc.	System support	
Rigging/Tackle	Misc.	System support	

Support Resources*

Description	Type	Function	Quantity
Vessels	Vessel Class 3/4/5/6	Booming support	2
Personnel**	Response Tech./Shift		3

Shoreside Recovery, Land Access

SR

Direct Resources

Description	Type	Function	Quantity
Collection System	Calm/Protected water skimmer	Oil recovery	1
Storage Device	Collapsible Tank	Intermediate storage	1
Storage Device	Vacuum Truck	Storage/Transport	1
Hoses & Fittings	Misc.	System support	
Rigging/Tackle	Misc.	System support	

Support Resources*

Description	Type	Function	Quantity
Vessels	Vessel Class 3/4/5/6	Booming support	2
Personnel**	Response Tech./Shift		3
Trucks & Trailers		Equipment & personnel transport	2

* Support Resources may need to be re-evaluated, and in most cases decreased, when deploying multiple units or tending systems after deployment.

** Personnel does not include vessel crews.

Example A, cont.

M

Mechanical Recovery – Shoreside Recovery

CAPACITIES FOR PLANNING

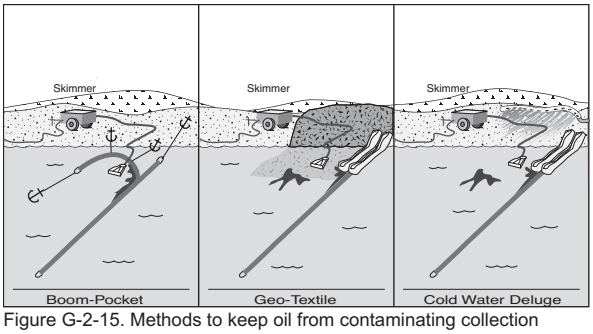


Figure G-2-15. Methods to keep oil from contaminating collection beaches.

DEPLOYMENT CONSIDERATIONS AND LIMITATIONS

- Access and oil type may influence equipment options.
- Recovery vessel needs to coordinate closely with diversion booming units.
- Monitor and reposition as necessary through tide cycles.
- Constant monitoring of system efficiency is required.
- Where access is restricted, system efficiency should be increased to minimize excess waste/water, and decant options should be reviewed.
- Deployment planning should be based on average high tidal conditions.
- A pump may be required to move oil from storage to vacuum truck or other mobile storage.
- May need to request a permit from ADEC to decant free water from storage back into recovery area.
- Use one of the methods shown in Figure G-2-15 to protect the collection site from contamination.

REFERENCES TO OTHER TACTICS

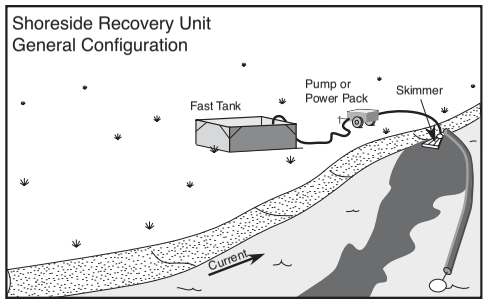
Alaska Spill Response Tactics Manual

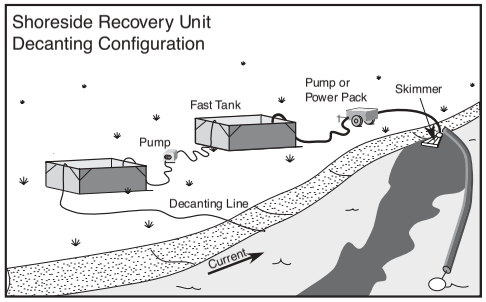
4-27

M-2. SHORESIDE RECOVERY

SR

TACTIC DESCRIPTION





OBJECTIVE & STRATEGY

The objective of the shoreside recovery unit is to recover spilled oil that has been diverted to a designated recovery site accessible from the shore.

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The general strategy is to:

- Identify the primary recovery site and access capabilities.
- Determine the appropriate recovery and storage systems based on oil, access, and deployment restrictions.
- Mobilize and deploy equipment to recover and temporarily store the oil from the recovery site.

Resources for this module vary and have been divided into two categories: Restricted Access and No Restrictions. Each unit is defined to contain a recovery device, a storage device and the associated direct and support equipment and materials. Quantity of units required will be determined by site, and resource sets may need to be refined as site specific requirements dictate.

Example B1. Proposed format for the Alaska Spill Response Tactics Manual, 5.5" x 8", landscape, spiral binding on top.

Example B1, cont.

EQUIPMENT AND PERSONNEL RESOURCES

Shoreside Recovery, Marine Access

SR

Direct Resources

Description	Type	Function	Quantity
Collection System	Calm/Protected water skimmer	Oil recovery	1
Storage Device	Portable/Easy Setup	Oil storage	1
Hoses & Fittings	Misc.	System support	
Rigging/Tackle	Misc.	System support	

Support Resources*

Description	Type	Function	Quantity
Vessels	Vessel Class 3/4/5/6	Booming support	2
Personnel**	Response Tech./Shift		3

EQUIPMENT AND PERSONNEL RESOURCES, cont.

Shoreside Recovery, Land Access — SR

Direct Resources

Description	Type	Function	Quantity
Collection System	Calm/Protected water skimmer	Oil recovery	1
Storage Device	Collapsible Tank	Intermediate storage	1
Storage Device	Vacuum Truck	Storage/Transport	1
Hoses & Fittings	Misc.	System support	
Rigging/Tackle	Misc.	System support	

Support Resources*

Description	Type	Function	Quantity
Vessels	Vessel Class 3/4/5/6	Booming support	2
Personnel**	Response Tech./Shift		3
Trucks & Trailers		Equipment & personnel transport	2

* Support Resources may need to be re-evaluated, and in most cases decreased, when deploying multiple units or tending systems after deployment.

** Personnel does not include vessel crews.

CAPACITIES FOR PLANNING

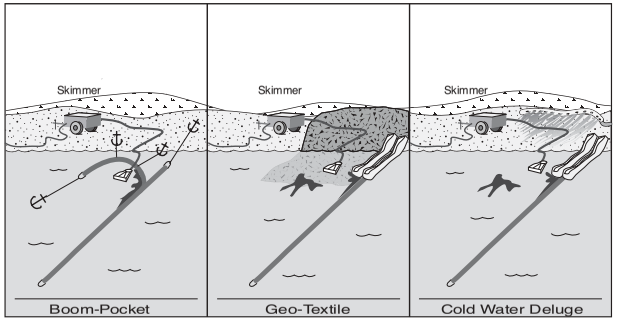
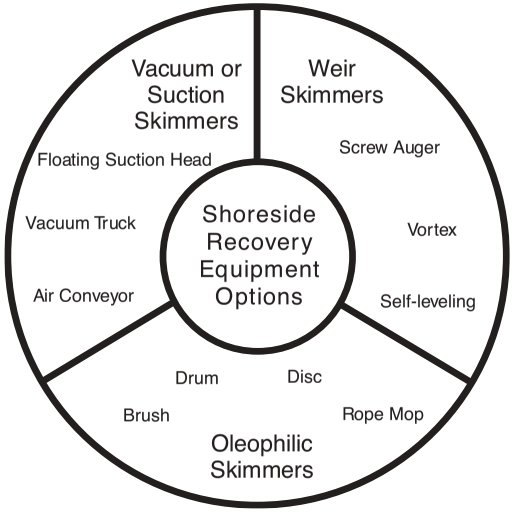


Figure G-2-15. Methods to keep oil from contaminating collection beaches.



DEPLOYMENT CONSIDERATIONS AND LIMITATIONS

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- Constant monitoring of system efficiency is required.
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- A pump may be required to move oil from storage to vacuum truck or other mobile storage.
- May need to request a permit from ADEC to decant free water from storage back into recovery area.
- Use one of the methods shown in Figure G-2-15 to protect the collection site from contamination.

REFERENCES TO OTHER TACTICS

Alaska Spill Response Tactics Manual

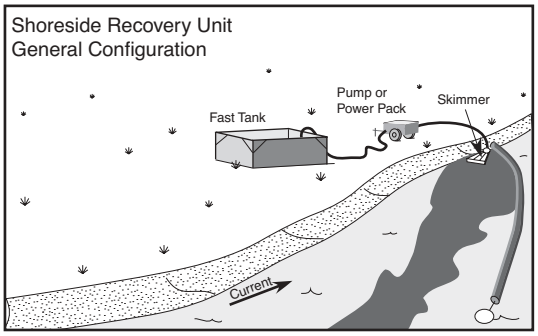
Example B2. Proposed format for the Alaska Spill Response Tactics Manual, 5.5" x 8", portrait, spiral binding on left side.

M-2. SHORESIDE RECOVERY

SR

M

TACTIC DESCRIPTION



OBJECTIVE & STRATEGY

The objective of the shoreside recovery unit is to recover spilled oil that has been diverted to a designated recovery site accessible from the shore.

Numerous types of recovery systems (skimmers) are available to recover many types of oil. Recovery systems vary in size and support requirements. There is also a wide range of options for temporary oil storage. Access to the recovery site and the oil type may influence/ dictate the options of equipment to be used. If access is restricted to four wheel ATVs, then the systems chosen need to be light enough to be transported by ATV and capable of being setup/deployed by a minimal number of personnel. If access is not restricted, larger systems can be used and deployed by heavy lifting equipment. If the site is accessible by road, vacuum trucks may be used for oil recovery, storage and transport. In all cases, every effort should be made to protect the collection beach. See Figure G-2-13.

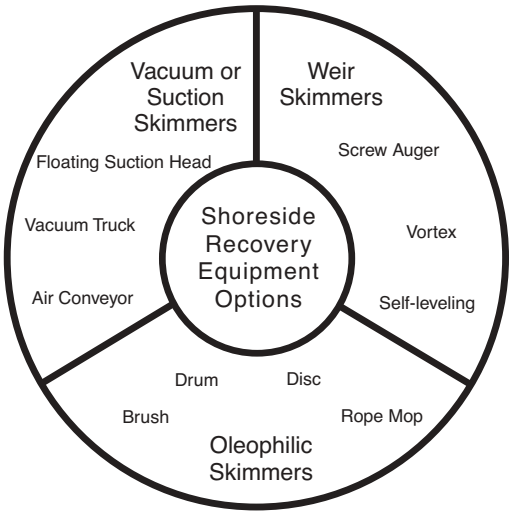
The general strategy is to:

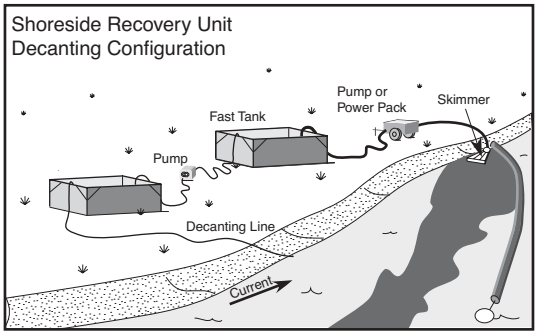
- Identify the primary recovery site and access capabilities.
- Determine the appropriate recovery and storage systems based on oil, access, and deployment restrictions.
- Mobilize and deploy equipment to recover and temporarily store the oil from the recovery site.

Resources for this module vary and have been divided into two categories: Restricted Access and No Restrictions. Each unit is defined to contain a recovery device, a storage device and the associated direct and support equipment and materials. Quantity of units required will be determined by site, and resource sets may need to be refined as site specific requirements dictate.

Example B2, cont.

M





Example B2, cont.

EQUIPMENT AND PERSONNEL RESOURCES

Shoreside Recovery, Marine Access — SR

Direct Resources

Description	Type	Function	Quantity
Collection System	Calm/Protected water skimmer	Oil recovery	1
Storage Device	Portable/Easy Setup	Oil storage	1
Hoses & Fittings	Misc.	System support	
Rigging/Tackle	Misc.	System support	

Support Resources*

Description	Type	Function	Quantity
Vessels	Vessel Class 3/4/5/6	Booming support	2
Personnel**	Response Tech./Shift		3

Shoreside Recovery, Land Access — SR

Direct Resources

Description	Type	Function	Quantity
Collection System	Calm/Protected water skimmer	Oil recovery	1
Storage Device	Collapsible Tank	Intermediate storage	1
Storage Device	Vacuum Truck	Storage/Transport	1
Hoses & Fittings	Misc.	System support	
Rigging/Tackle	Misc.	System support	

Support Resources*

Description	Type	Function	Quantity
Vessels	Vessel Class 3/4/5/6	Booming support	2
Personnel**	Response Tech./Shift		3
Trucks & Trailers		Equipment & personnel transport	2

* Support Resources may need to be re-evaluated, and in most cases decreased, when deploying multiple units or tending systems after deployment.

** Personnel does not include vessel crews.

Example B2, cont.

M

CAPACITIES FOR PLANNING

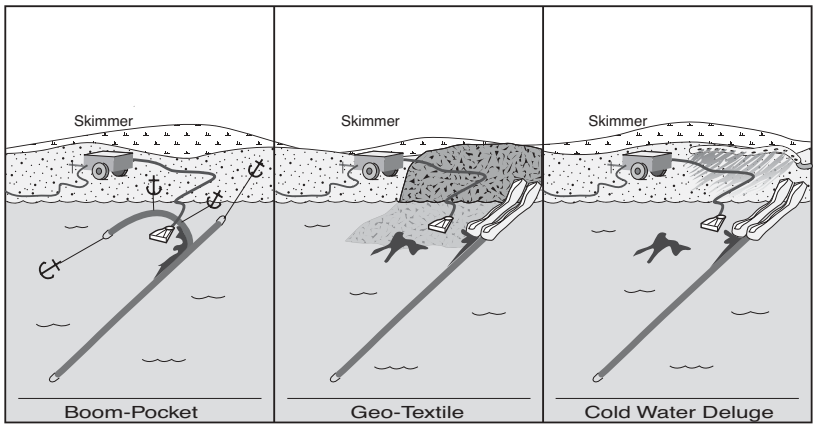


Figure G-2-15. Methods to keep oil from contaminating collection beaches.

DEPLOYMENT CONSIDERATIONS AND LIMITATIONS

- Access and oil type may influence equipment options.
- Recovery vessel needs to coordinate closely with diversion booming units.
- Monitor and reposition as necessary through tide cycles.
- Constant monitoring of system efficiency is required.
- Where access is restricted, system efficiency should be increased to minimize excess waste/water, and decant options should be reviewed.
- Deployment planning should be based on average high tidal conditions.
- A pump may be required to move oil from storage to vacuum truck or other mobile storage.
- May need to request a permit from ADEC to decant free water from storage back into recovery area.
- Use one of the methods shown in Figure G-2-15 to protect the collection site from contamination.

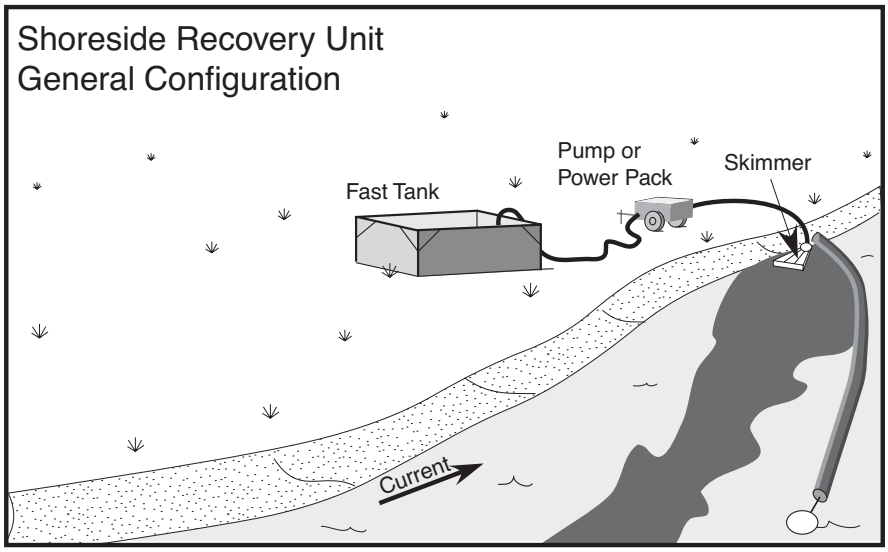
REFERENCES TO OTHER TACTICS

Example C. Proposed format for the Alaska Spill Response Tactics Manual, 8.5" x 11", portrait, three hole punch.

M-2. SHORESIDE RECOVERY

SR

TACTIC DESCRIPTION



OBJECTIVE & STRATEGY

The objective of the shoreside recovery unit is to recover spilled oil that has been diverted to a designated recovery site accessible from the shore.

Numerous types of recovery systems (skimmers) are available to recover many types of oil. Recovery systems vary in size and support requirements. There is also a wide range of options for temporary oil storage. Access to the recovery site and the oil type may influence/dictate the options of equipment to be used. If access is restricted to four wheel ATVs, then the systems chosen need to be light enough to be transported by ATV and capable of being setup/deployed by a minimal number of personnel. If access is not restricted, larger systems can be used and deployed by heavy lifting equipment. If the site is accessible by road, vacuum trucks may be used for oil recovery, storage and transport. In all cases, every effort should be made to protect the collection beach. See Figure G-2-13.

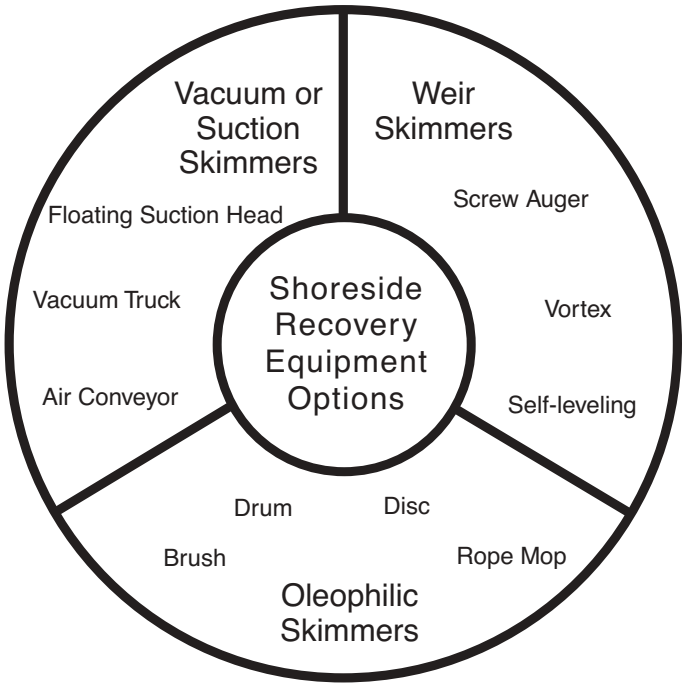
The general strategy is to:

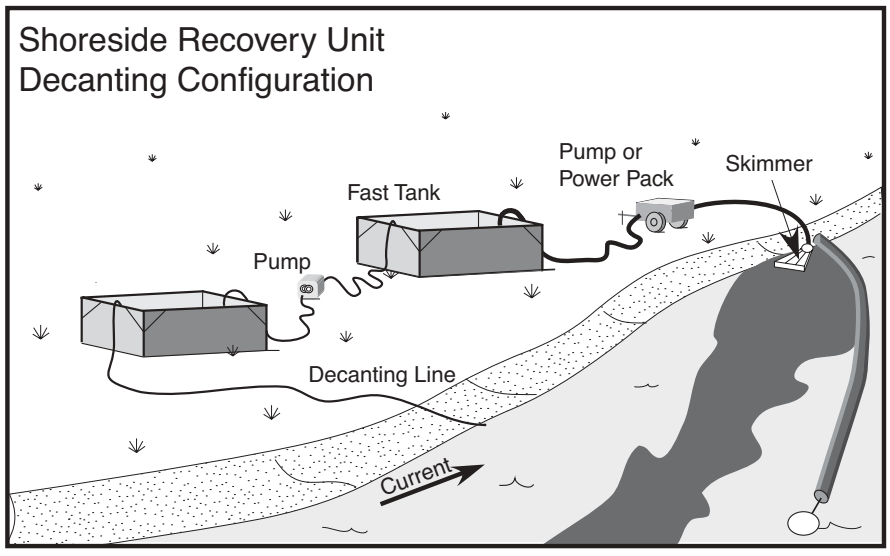
- Identify the primary recovery site and access capabilities.
- Determine the appropriate recovery and storage systems based on oil, access, and deployment restrictions.
- Mobilize and deploy equipment to recover and temporarily store the oil from the recovery site.

Resources for this module vary and have been divided into two categories: Restricted Access and No Restrictions. Each unit is defined to contain a recovery device, a storage device and the associated direct and support equipment and materials. Quantity of units required will be determined by site, and resource sets may need to be refined as site specific requirements dictate.

Example C, cont.

Mechanical Recovery – Shoreside Recovery





Alaska Spill Response Tactics Manual

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Example C, cont.

EQUIPMENT AND PERSONNEL RESOURCES

Shoreside Recovery, Marine Access

SR

Direct Resources

Description	Type	Function	Quantity
Collection System	Calm/Protected water skimmer	Oil recovery	1
Storage Device	Portable/Easy Setup	Oil storage	1
Hoses & Fittings	Misc.	System support	
Rigging/Tackle	Misc.	System support	

Support Resources*

Description	Type	Function	Quantity
Vessels	Vessel Class 3/4/5/6	Booming support	2
Personnel**	Response Tech./Shift		3

Shoreside Recovery, Land Access

SR

Direct Resources

Description	Type	Function	Quantity
Collection System	Calm/Protected water skimmer	Oil recovery	1
Storage Device	Collapsible Tank	Intermediate storage	1
Storage Device	Vacuum Truck	Storage/Transport	1
Hoses & Fittings	Misc.	System support	
Rigging/Tackle	Misc.	System support	

Support Resources*

Description	Type	Function	Quantity
Vessels	Vessel Class 3/4/5/6	Booming support	2
Personnel**	Response Tech./Shift		3
Trucks & Trailers		Equipment & personnel transport	2

* Support Resources may need to be re-evaluated, and in most cases decreased, when deploying multiple units or tending systems after deployment.

** Personnel does not include vessel crews.

Example C, cont.

CAPACITIES FOR PLANNING

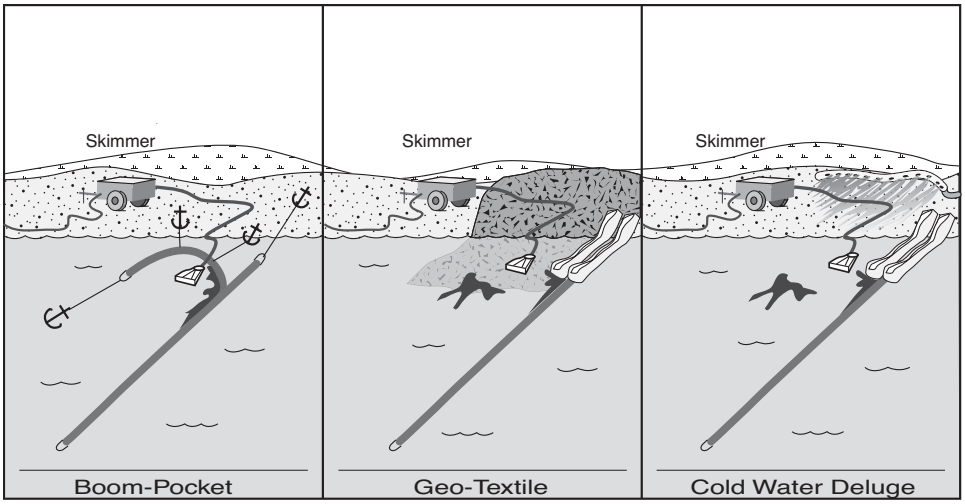

Figure G-2-15. Methods to keep oil from contaminating collection beaches.

DEPLOYMENT CONSIDERATIONS AND LIMITATIONS

- Access and oil type may influence equipment options.
- Recovery vessel needs to coordinate closely with diversion booming units.
- Monitor and reposition as necessary through tide cycles.
- Constant monitoring of system efficiency is required.
- Where access is restricted, system efficiency should be increased to minimize excess waste/water, and decant options should be reviewed.
- Deployment planning should be based on average high tidal conditions.
- A pump may be required to move oil from storage to vacuum truck or other mobile storage.
- May need to request a permit from ADEC to decant free water from storage back into recovery area.
- Use one of the methods shown in Figure G-2-15 to protect the collection site from contamination.

REFERENCES TO OTHER TACTICS


nuka
RESEARCH & PLANNING GROUP, LLC.